FLOW CONTROLLER FOR GAS TURBINE COMBUSTORS

ABSTRACT OF THE DISCLOSURE

A flow controller is disposed between a preburner section in a diffuser and prior to the main fuel injector and catalytic sections in a turbine combustor. The flow from the burner section is typically not uniform in temperature and velocity and the flow splitter renders the flow substantially uniform at the fuel injector and catalyst inlet. The flow splitter comprises substantially equal mass annular flow areas defined by a first outer frustoconical element and the diffuser wall, a second element defining with the first element a second annular area and a central bluff disk defining with the second element the interior annular area. Vanes are provided on the flow splitter to enhance turbulent flow and substantially preclude swirling flow. As a result, flow uniformity at the catalyst inlet and main fuel injection is achieved.